can ultimately get the same information and accomplish the same tasks,[27] it will take them substantially longer to reach the same result. But BellSouth goes beyond this and contends that this slower, less-efficient process provides a benefit that its own employees do not have, ignoring that BellSouth's integrated systems for pre-ordering and ordering render this mode superfluous.[28]

2. *Ordering & Provisioning*

As the Department has previously observed, the wholesale support processes that BOCs provide for ordering and provisioning are the most critical processes that the BOCs must put in place, for it is through those processes that the CLECs enter local exchange markets and begin to serve customers.[29] In this section, we discuss functional limitations and designed capacity. We conclude with an analysis of BellSouth's PC-EDI concept.

a. *Functionality*

Because the OSS functions supporting the ordering and provisioning of resale service have retail analogs, *Michigan Order* ¶ 140, the access to those functions that a BOC provides to CLECs must be "equal to the level of access that the BOC provides to itself, its customers or its affiliates, in terms of quality, accuracy and timeliness," *id.* ¶ 139, and "[f]or those functions that the BOC itself accesses electronically, the BOC must provide equivalent electronic access for competing carriers,"

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[27] This should not be assumed, for it appears that these additional address validations constitute transactions that will (a) increase the load on the system, potentially slowing performance, and (b) count against LENS total capacity and thus lower LENS effective capacity. Capacity issues are discussed below.

[28] An additional issue involving address validation is the acknowledged omission in LENS of driving instructions for unnumbered addresses, which is available in BellSouth's internal RNS system. *See* Stacy OSS Aff. ¶ 18. While arguing that this disparity does not deprive CLECs of a meaningful opportunity to compete, BellSouth makes no attempt to address the obvious parity issue.

[29] DOJ Oklahoma Evaluation, App. A at 71-72.

id. ¶ 137.[30] Accordingly, based on a straight-forward application of these principles, in the resale context a BOC must provide CLECs with support for (a) equivalent electronic ordering of all services that the BOC's retail representatives can order electronically, (b) equivalent electronic processing of those orders, including "flow-through" for all order types for which the BOC's retail service orders have flow-through, (c) equivalent electronic return of like status messages, including firm order confirmations ("FOCs"), order rejections, jeopardy notifications, and order-completion notifications, and (d) equivalent electronic ability to query and view pending orders and related status information. As discussed below, BellSouth does not do so, and thus BellSouth is not providing non-discriminatory access to ordering and provisioning functions.

First, BellSouth currently offers a standards-based application-to-application EDI interface[31] for ordering.[32] However, that interface presently supports the ordering of only business and residential POTS, PBX trunks, and DID trunks, not all of the services that BellSouth retail

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[30] *See also* DOJ Oklahoma Evaluation, App. A at 71 ("at a minimum the Department expects BOC automation of processing steps in instances where a BOC electronically processes substantially analogous steps for its own retail operations"); *id.* at 80.

[31] BellSouth states that it is committed to implementing the most recent EDI-based standard released by ATIS. Stacy OSS Aff. ¶ 50. We commend, in this regard, Bell South's commitment to adhere to any future industry standards addressing OSS standards.

[32] Although BellSouth provides ordering capability through LENS, BellSouth continues to de-emphasize that capability:

> During many state proceedings, the competitive carriers' testimony has criticized the *ordering* capabilities of LENS. The primary function of LENS is *pre-ordering*. Non-discriminatory access for ordering is supplied by the industry-standard [EDI and EXACT] interfaces. BellSouth, along with the industry, recommends EDI for local exchange ordering.

Stacy OSS Aff. ¶ 46 (emphasis in original). BellSouth is not relying on LENS' ordering functions to fulfill its checklist obligations, BellSouth Brief at 27 ("not an aspect of BellSouth's provision of nondiscriminatory access under the requirements of the Act"), thus those functions are not discussed in this analysis.

representatives can order electronically. AT&T Bradbury Aff. ¶ 99, 113. Additional functionality is being added in phases, but in the interim, resale and UNE orders not supported by EDI are processed manually by submitting them to BellSouth via facsimile or mail. Stacy OSS Aff. Ex. WNS-52 §§ 3-06, 3-16.

Second, BellSouth's ordering and provisions systems are providing flow-through on only a low proportion of those types of orders that are currently supported. BellSouth states that it provides mechanized order generation on services representing the vast majority of BellSouth's retail revenues, BellSouth Brief at 28; Stacy OSS Aff. ¶ 58, but this does not compare mechanized order generation for CLECs and for BellSouth's retail operations and thus would not support a finding of parity. Moreover, AT&T cites flow-through figures in the range of 26.2% and 33.7% of EDI and LENS orders for July and August 1997, respectively. AT&T Bradbury Aff. ¶ 106.[33] The remaining CLEC orders drop out of the system and are processed manually. In contrast, the Department understands that no less than 97% of BellSouth's residential orders and 81% of its business orders flow through.

While orders may be processed handled manually in some circumstances, for reasons the Department and the Commission discussed in detail with regard to Ameritech's Michigan application,[34] the high proportion of orders being handled manually at this point is a significant concern. As explained below with regard to Operational Readiness, the total volume of orders has

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[33] Even accepting BellSouth's adjustments that seek to eliminate the effect of errors that it attributes to the CLECs, BellSouth projects that flow through for July would have been only 53%. Stacy OSS Aff. ¶ 112. The unadjusted flow-through figure is worse. *Id.* Ex. WNS-41 (confidential exhibit). While BellSouth's August figures suggest that flow-through improved that month, it does not appear that the numbers are yet as good as those for BellSouth's retail side. In any event, there is still an insufficient track record to justify a conclusion that the systems are operationally ready.

[34] *See generally* DOJ Michigan Evaluation, App. A at 14-16; *Michigan Order* ¶¶ 172-99.

been low to this point. BellSouth has not demonstrated that the manual handling of these orders will not delay the processing of these orders in a discriminatory way once the volumes of orders increase, as has occurred with other carriers.

Third, even for orders submitted electronically, order rejections due to violations of BellSouth's business rules, as well as jeopardy notifications, do not flow back to the CLEC electronically: they dropout and are handled manually, typically sent back to the CLEC via fax. *See* Stacy OSS Aff. ¶ 77. BellSouth states that an electronic error response capability is being developed and presently "is scheduled for first quarter 1998." *Id.* ¶ 75.[35] In the mean time, this manual handling at BellSouth's end, as well as the manual handling required at the CLEC end because of the communication via facsimile, can cause significant delays in the handling of CLEC orders and is also prone to error.[36] Fundamentally, this does not provide parity with BellSouth retail operations.

b. *PC-EDI Concept*

On the positive side, the Department is encouraged by BellSouth's work with an independent software vendor to develop an inexpensive, PC-compatible software package that is compatible with

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[35] It is not stated exactly what is scheduled for first quarter 1998, internal testing, carrier-to-carrier testing, or final implementation.

[36] On BellSouth's end, the order sits in a queue waiting for a BellSouth LCSC service representative to pull the order from the queue and review it. Stacy OSS Aff. ¶ 76. The representative must then manually prepare a notification describing the error or other problem and fax it to the CLEC. Commentors note that the accuracy and comprehensiveness of these messages can vary widely and that unclear or even erroneous messages can further contribute to the delay.

On the CLEC's end, additional manual steps are required. To prevent further adding to the delay, CLEC personnel must continually monitor the fax machine. Once a fax arrives, it will have to be handled manually, routed back to the appropriate personnel, and tied back to the original CLEC order. These manual processes undermine the CLEC's efforts to automate its processes in the first instance and pose a significant disadvantage in the ordering process.

BellSouth's EDI interface. Stacy OSS Aff. ¶ 53. BellSouth states that it undertook this work "[t]o assist CLECs of all sizes that want to use EDI without extensive development effort on their side of the EDI interface" and that the software "is readily available to even the smallest CLEC." *Id.*

The Department supports this concept, which leverages existing application-to-application interfaces and makes them available to additional CLECs.[37] The Department recognizes that such software basically provides a terminal interface to the CLEC users, and thus such software is not useable by CLECs wishing to tie into their own internal OSSs. Thus, the development and use of such software does not necessarily test the ability of CLECs to automate their end of an application-to-application interface with the BOCs. But that is not the proper goal or use of such software. Rather this concept focuses on CLECs that do not have or choose not to tie into their own internal OSSs. The Department and the Commission have each recognized that CLECs will have varying needs with respect to OSS access functionality, based largely on the degree to which each CLEC deploys its own internal OSSs, and that BOCs need to support those varying needs.[38] This approach can help meet those CLEC needs and BOC obligations in a way that benefits both CLECs and BOCs.

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[37] The Department lacks sufficient information about the existing BellSouth/Harbinger PC-EDI software and exactly how it interfaces with BellSouth's systems to determine how closely the present implementation of this approach tracks the concept. Accordingly, the Department's support for this concept should not be construed as a corresponding conclusion on BellSouth's implementation of this concept or on the PC-EDI software itself.

Information in the present record indicates that there are differences in EDI order functionality and handling depending whether they are sent using PC-EDI. *See* AT&T Bradbury Aff. at 51 n.60 (Phase II EDI functionality is presently available only when using PC-EDI software); Stacy OSS Aff. ¶ 62 (normal EDI orders held in queue and processed in thirty-minute intervals; PC-EDI orders may be put in queue or sent immediately). This suggests that BellSouth presently may be using a different interface at its end for receiving and initially processing PC-EDI orders. Such differences could prevent some of the potential benefits from being realized, but that would be only for this implementation and would not undercut the desirability of the underlying concept.

[38] *See, e.g.*, DOJ Oklahoma Evaluation, App. A at 74-76; DOJ Michigan Evaluation, App. A at 22; *Michigan Order* ¶ 220.

BOCs can benefit from this approach because it builds on existing application-to-application interfaces and thus can reduce the number of interfaces that a BOC needs to support to provide non-discriminatory access to OSS functions to all CLECs. By reducing the number of interfaces that it develops, tests, and maintains, the BOC can, with the same resources, implement and improve its remaining interfaces more quickly. As an illustration, BellSouth's existing LENS interface provides electronic ordering capability only for "a subset of the order types and activity types provided by the EDI interface," Stacy OSS Aff. ¶ 56. PC-EDI-type software that fully supported all EDI ordering functionality would allow *any* CLEC to place *all* such EDI order types without needing to incur the time and expense of developing its own EDI-compatible software. If such software could also access pre-ordering functions on an automated basis, it could obviate the need for LENS altogether.

Certain CLECs can also benefit from such PC-EDI-type software. If such software is implemented with all the functionality of the underlying BOC application-to-application interface, CLECs will be able to choose the option that best fits its other business needs without having to potentially trade off the ability to access certain transaction types. Moreover, such software has the potential, if combined with integrated support for an application-to-application pre-ordering interface, to provide even the smallest CLEC with an integrated pre-ordering/ordering environment equivalent to that presently used by BellSouth's retail representatives. That is obviously a desirable objective.

3. *Support & Documentation*

The Department concludes that BellSouth is not providing adequate support and documentation to competing carriers, and the lack of adequate documentation and support preclude a finding that BellSouth "is adequately assisting competing carriers to understand how to implement

and use all of the OSS functions available to them." *Michigan Order* ¶ 136. One of the worst problems is BellSouth's failure to adequately disclose to competing carriers the internal editing and data formatting requirements and the business rules necessary for orders to be accepted, not only at the BellSouth gateway, but also by BellSouth internal OSSs.[39] The critical nature of access to OSS functions for ordering makes this a major problem, for it prevents CLECs from pre-validating their orders to ensure that they will be accepted by BellSouth's systems. Other examples discussed in the comments include (1) the lack of specifications needed to develop an application-to-application interface to LENS for accessing pre-ordering functions, something BellSouth represents to the Commission as both possible and available[40]; (2) insufficient training on LENS; (3) significant errors in documentation that is provided; (4) out-of-date documentation; and (5) the lack of change management processes to notify CLECs in advance of changes that will be made to BellSouth systems.

Under these circumstances, where adequate documentation and support appear to be lacking, general references to CLEC errors as a major factors in problems such as high rejection rates and lack of flow through, *see, e.g.*, Stacy OSS Aff. ¶ 111-12, Stacy Performance Aff. ¶ 51, are unconvincing. The Department recognizes that CLECs have errors and may be negligent in their efforts to reduce errors. However, to simply attribute a certain portion of total errors to the CLEC, as BellSouth has

[39] *See, e.g.*, AT&T Bradbury Aff. ¶¶ 144-53.

[40] *See* BellSouth Brief at 26; Stacy OSS Aff. ¶ 43-44. *But see* AT&T Bradbury Aff. ¶¶ 32-45 (citing contrary BellSouth testimony before state public service commissions). This is discussed further below.

done,[41] does not allow the Department and the Commission to independently judge what proportion of the errors are attributable solely to CLEC failures and what proportion could have been prevented if BellSouth were providing adequate documentation and support. Since the BOCs are obligated to provide adequate documentation and support and because the lack of such documentation and support totally undermines the ability of CLECs to prevent errors, BOC claims of "CLEC errors" should not be heard so long as OSS documentation and support is inadequate. Rather, we would expect BellSouth to justify its support for its wholesale functions or to improve its support services so that they are adequate.

C. Operational Readiness

As discussed further below, the Department concludes that BellSouth's systems presently have limited capacity and have not been proven effective for handling large, competitively significant volumes of demand. Past experience suggests that limited commercial use at small volumes does not provide an adequate basis upon which to judge the performance of systems that will need to handle a much larger volume of orders.

System capacity is a critical component of operational readiness. On the issue of capacity, the Department has previously stated that a BOC must show that its systems "allow competitors to serve customers . . . in reasonably foreseeable quantities, or that its [systems] are scalable to such quantities as demand increases." DOJ Oklahoma Evaluation at 29. The Department explained that "reasonably foreseeable [meant] those quantities that competitors collectively would ultimately demand in a competitive environment where the level of competition was not constrained by any

[41] *See, e.g.*, Stacy OSS Aff. ¶¶ 111-12, Ex. WNS-41 (confidential exhibit).

limitations of the BOC's interfaces or processes, or by other factors the BOC may influence." *Id.* The Commission has determined that it "will examine operational evidence to determine whether the OSS functions provided by the BOC to competing carriers are actually handling current demand and will be able to handle *reasonably foreseeable demand volumes*." *Michigan Order* ¶ 138 (emphasis added).

BellSouth has not demonstrated that its pre-ordering systems are operationally ready. BellSouth represents that it has internally tested LENS to support 160 simulated users.[42] However, the existing capacity appears to be woefully inadequate for either existing[43] or foreseeable demand. Because BellSouth's OSS operates region wide, the user figures are for the total number of simultaneous users among for all CLECs throughout BellSouth's region. It would appear that competitively significant marketing efforts would quickly exhaust available capacity.

Neither has BellSouth demonstrated that its ordering systems are operationally ready, especially in light of the manual processes involved. BellSouth states that it received and processed only about 5,000 orders region wide in August. This total volume is only a fraction of the volume

[42] Stacy OSS Aff. Ex. WNS-45.

[43] AT&T reports a recent incident in which less than half of sixty users could adequately use LENS. AT&T Bradbury Aff. ¶ 258; *see also id.* ¶¶259-61; MCI King Decl. ¶ 86. If the total number of LENS users at that point in time was no greater than 160, this suggests that BellSouth's testing was flawed. If the total number was greater than 160, then usage has already exceeded tested capacity.

at which Pacific Bell and Ameritech systems failed due to their reliance on manual processing,[44] and BellSouth has experienced major problems with errors at even this low volume.[45]

If one considers foreseeable volumes, the situation is even more problematic. According to BellSouth's October 20, 1997, 8-K filing with the SEC, BellSouth currently has nearly 23 million access lines in its region, having added just over 1 million access lines in the last year. Using the PIC change measure described in the Michigan order, one would estimate that there are about 17,000 PIC changes per business day in BellSouth's region.[46] A survey recently reported in *Communications Daily* stated that nearly 20% of residential customers would change, and an additional 17% would consider changing, local carriers; if one assumes that at least a similar proportion of business customers will change local carriers, one could estimate from this an average of roughly 18,400 to 33,600 lines per business day changing region wide.[47] Finally, the one million access lines BellSouth added in the last year would translate to roughly 4,000 access lines added per business day. In a

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[44] *See MCI v. PacBell*, Cal. PUC No. 96-12-026 (Sept. 24, 1997), at 27, 29 (finding that MCI ceased marketing after PacBell built up backlogs of 4,000 to 5,000 orders and that, by PacBell's own admission, it's systems did not offer their competitors resold services at parity).

[45] For example, LCI states:

> In the brief time that LCI has been using BellSouth's EDI interface for ordering and provisioning, LCI has encountered excessive delays in the receipt of firm order confirmations; excessive delays in the provisioning of orders; manual processing of orders that should flow-through electronically to BellSouth's OSS; orders that have been "lost" in BellSouth's system; and substantial delays in obtaining resolution of problems due to the lack of sufficient personnel who have been adequately trained in EDI applications.

LCI Comments at ii; *see also id.* at 4-5 (for example, it has taken an average of seven days for LCI to receive FOCs).

[46] *Michigan Order* n. 494. This calculation is based on the total number of access lines in BellSouth's region and uses the figure cited in the Michigan order of at least 30 million PIC changes per year. *Id.*

[47] "Telco-Cable," *Communications Daily*, Oct. 28, 1997.

competitive environment, BellSouth will experience far greater order volumes than it is presently projecting. Moreover, as the Department and FCC have previously recognized, in sizing its systems, BellSouth cannot depend on uniform volumes but must account for, and be prepared to handle, variations in daily ordering volumes, and even significant spikes.[48] BellSouth has not demonstrated, either through actual commercial usage or even with other (less reliable) evidence such as internal testing with high volumes of test orders or third-party audits, that it can and will be able to do so.

The Commission has stated that "[a] BOC must ensure that its operations support systems are designed to accommodate both current demand and projected demand of competing carriers for access to OSS functions." *Michigan Order* ¶ 137. BellSouth states that has designed the capacity of its ordering systems based on CLEC forecasts. Stacy OSS Aff. ¶ 120. BellSouth provides projected volumes, Stacy OSS Aff. Ex. WNS-43, WNS-44, which its says incorporate available CLEC forecasts, *id.* ¶ 120. But its exhibits provide only the final numbers and do not explain the degree to which those numbers rely on CLEC forecasts or even what those forecasts are. This undercuts the Department's ability to judge the adequacy of BellSouth's showing on this point.

Finally, we are concerned that CLEC forecasts may be "constrained by . . . limitations of the BOC's interfaces or processes," DOJ Oklahoma Evaluation at 29, or by other impediments to competition, including those discussed in the Department's evaluation of this application. A BOC's wholesale support capacity should be measured against likely demand in a market that is otherwise fully open to competition.

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[48] *See Michigan Order* ¶ 199; DOJ Michigan Evaluation, App. A at 15-16.

III. Performance Measures

Performance benchmarks are important both for demonstrating that the market is currently open to competition and for facilitating meaningful post-entry oversight that ensures that the market opening is irreversible. The BOCs must therefore define the relevant measures, gather and report the appropriate data on a regular basis, and derive the applicable benchmarks from the performance so measured. While BellSouth has made several commendable commitments with regard to gathering and storing performance data, BellSouth's proposed permanent performance measurements[49] are deficient. BellSouth omits numerous critical measurements–measurements as fundamental as average installation intervals, for example–and these omissions preclude "a determination of parity or adequacy in the provision of resale or UNE products and services to CLEC's in the state of South Carolina." Friduss SC Aff. ¶ 78.

A. System Architecture and Design

BellSouth has made several important commitments with regard to gathering and maintaining performance data. First, BellSouth's existing legacy OSSs run on multiple mainframe computers. BellSouth states that "[t] he query systems on [these] computers are not flexible and cannot be easily manipulated to produce the measurements required to monitor parity between retail and wholesale customers." Stacy Performance Aff. ¶ 13. To overcome these limitations and "enable effective

[49] Of the three categories of performance measurements that BellSouth discusses–initial measurements, AT&T measurements, and permanent measurements, *see* Stacy Performance Aff. ¶ 16–the permanent measurements are by far the most significant. Based on discussions with BellSouth, the Department understands that it is only these permanent measurements that BellSouth is committing to regularly produce on an ongoing basis for CLECs and regulatory authorities. As stated above, one important purpose of performance measurements is to detect backsliding and thus facilitate meaningful post-entry oversight that ensures that the market opening is irreversible. The Department sees no basis for concluding that performance measurements not regularly produced and generally available on an ongoing basis will serve this important function.

ongoing production of measurements which monitor parity and provide meaningful data on a readily available basis," BellSouth has implemented a data warehouse, separate from the mainframe computers on which its OSSs run, in which raw data relating to performance can be stored and through which it can be queried to produce performance measurements. *Id.* ¶¶ 13, 14. The flexibility that can result from this type of architecture should make it easier for BellSouth to develop, maintain, and provide effective performance measurements.

Second, BellSouth states that it is capturing and storing in the data warehouse for subsequent analysis "[e]very order processed by BellSouth for both its retail units and its CLEC customers." *Id.* ¶ 14. The use of sampling can result in numerous disputes as to the statistical validity and thus the adequacy of the sampling technique, and poor sampling techniques can readily distort the view of the performance being measured. Therefore, storing data for all orders is obviously a more desirable approach than storing data for only a limited sample of orders.[50]

Third, BellSouth states that it plans to allow CLECs to directly access the data warehouse to perform their own analyses. *Id.* ¶ 15. BellSouth has not described exactly how CLECs would access the data warehouse or what types of data each CLEC would be able to access. Allowing a CLEC to access, not only data relating to itself, but also summary CLEC data and summary BellSouth data could provide CLECs a flexible tool for generating their own performance measures. The greater

[50] BellSouth has not, however, described what data it will track other than for orders. More generally, BellSouth has not listed the data elements that are being stored in the data warehouse. As a result the Department cannot ascertain exactly what performance measures BellSouth will be able to support using the data maintained in its data warehouse and thus cannot judge the adequacy of BellSouth's implementation of the data warehouse. The Department encourages BellSouth, as well as other BOCs that implement a data warehouse for performance measures, to identify and describe in future applications the complete list of data elements stored in such data warehouses.

degree of disaggregation that the data warehouse will support, *see* Friduss SC Aff. ¶¶ 31-34, the more powerful and useful this tool will be.

BellSouth is to be commended for committing itself to such a system for gathering, storing, and providing access to performance data. While the information that BellSouth has provided is not sufficient to judge the status or the adequacy of its implementation, BellSouth's approach is clearly a desirable one, and the Department strongly supports these commitments. We urge other BOCs to adopt a similar approach.

B. Actual Installation Intervals

Notwithstanding this desirable architecture, BellSouth's proposed permanent performance measurements fall considerably short of what is needed. Most significantly, BellSouth is not providing actual installation intervals, instead relying on a measurement of the percentage of provisioning appointments met. As described below, the Department and the Commission have previously determined that this measurement is an inadequate substitute. For this reason alone, BellSouth has failed to satisfy its evidentiary burden to "demonstrate that it is provisioning resale orders within the same average installation interval as that achieved by its retail operations." *Michigan Order* ¶ 166.

As the Department and the Commission have previously concluded, "[p]roviding resale services in substantially the same time as analogous retail services is probably the most fundamental parity requirement in Section 251."[51] In discussing this issue, the Commission has explained that an ILEC that "to a significant extent, [processes] retail orders for itself more quickly than it is processing

[51] DOJ Michigan Evaluation at A-12, quoted with approval in *Michigan Order* ¶ 167.

resale orders for competitive carriers . . . would not be meeting its obligation to provide equivalent accessed to those OSS functions" and that average installation intervals are critical to determining whether nondiscriminatory access is being provided. *Michigan Order* ¶ 167, 168. Accordingly, in the Michigan Order, the Commission concluded:

> [W]e find that submission of data showing average installation intervals is fundamental to demonstrating that Ameritech is providing nondiscriminatory access to OSS functions. Such data is direct evidence of whether it takes the same time to complete installations for competing carriers as it does for Ameritech, which is integral to the concept of equivalent access. By failing to provide such data in this application, Ameritech has failed to meet its evidentiary burden.

Michigan Order ¶ 171. The same reasoning applies equally to BellSouth and yields an identical conclusion with respect to BellSouth's current application.

Contrary to BellSouth's assertions, Stacy Performance Aff. ¶ 52, a measurement of the percentage of provisioning appointments met does not adequately describe BellSouth's performance: it does not permit direct comparisons to BellSouth's retail performance and thus is not sufficient to demonstrate parity, even if when combined with data demonstrating that provisioning appointments are being assigned on a non-discriminatory basis.[52] Fundamentally, a report that shows the side of the line on which an order falls, either met or missed, does not reveal where it is in the range.[53] As to provisioning appointments met, if all CLEC customers receive service on the due date while all

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[52] While BellSouth purports to provide "data on actual intervals for provisioning various services," Stacy Performance Aff. ¶ 52, an examination of the data cited, Exhibit WNS-10 to that affidavit quickly reveals that is not the case. The charts are clearly labeled "Issue to Original Due Date Intervals" or "Issue to Due Date Average Interval." At best, due date intervals can show that BellSouth is assigning due dates to CLECs and itself on a non-discriminatory basis. While this is important, this is not the same as an installation interval.

[53] The difference is similar to whether a college course is graded with a letter grade such as A, B, C, D, or F or merely on a pass/fail basis. Pass/fail grades do not reveal where passing students stand with respect to one another in the class.

BellSouth retail customers receive service in half the scheduled time, then a report of provisioning appointments met will show parity of performance, not revealing the discriminatory difference in performance between BellSouth and the CLEC. Likewise, as to provisioning appointments missed, if all BellSouth retail customers receive service after one additional day while all CLEC customers receive service after five additional days, then a report of provisioning appointments met will again show parity of performance and fail to reveal the discriminatory difference.

C. Other Missing Measures

As described in the Friduss affidavit, BellSouth's permanent performance measures are missing numerous other significant measurements. For example, BellSouth has no measurements for pre-ordering functions, and it has few measurements for ordering functions. Other significant missing significant measurements include Service Order Quality, Orders Held for Facilities; Billing Timeliness, Accuracy, and Completeness; and 911 Database Update Timeliness and Accuracy.[54] Thus, BellSouth has yet to establish sufficient performance measurements to satisfy the Department's competitive assessment.[55]

Notably, a number of these missing elements are among those listed in the Michigan Order as necessary parts of a BOC's evidentiary showing. The Commission found that Ameritech had failed

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[54] In discussions with the Department, BellSouth has indicated that some omitted measurements are under consideration but have not yet been adequately defined at this point. In this regard, the Department reiterates that for performance reports to be meaningful and useful, the relevant measures must be specifically and clearly defined. Without such definition, the reports will be meaningless if not actually misleading to a CLEC or regulator. "For example, cycle-time performance measures are dependent on the specific definition of start and stop times, while reliability measures are dependent on the specific definition of what constitutes a failure." Friduss SC Aff. ¶ 23.

[55] As we have noted previously, we are open to considering alternate measures for assessing wholesale performance; we are not, however, able to conclude that a local market has been fully and irreversibly opened unless the important indicators of wholesale performance are being measured and reported on a regular basis.

to meet its "fundamental duty with regard to the evidentiary burden required to demonstrate that it is providing nondiscriminatory access to all OSS functions," *Michigan Order* ¶ 204, and concluded:

> [I]n order to provide us with the appropriate empirical evidence upon which we could determine whether Ameritech is providing nondiscriminatory access to OSS functions, Ameritech should provide, as part of a subsequent section 271 application, the following performance data, in addition to the data that it provided in this application: (1) average installation intervals for resale; (2) average installation intervals for loops; (3) comparative performance information for unbundled network elements; (4) service order accuracy and percent flow through; (5) held orders and provisioning accuracy; (6) bill quality and accuracy; and (7) repeat trouble reports for unbundled network elements.

Michigan Order ¶ 212 (footnotes omitted). As stated above with respect to average installation intervals, the Commission's reasoning on these other performance measurements applies equally to BellSouth, and thus the omission of these measurements warrants an identical conclusion with respect to the inadequacy of this application.

APPENDIX B

South Carolina Overview and Description of Local Competitors in South Carolina

South Carolina is the nation's 26th most populous state, with over 3.6 million inhabitants and is the eighth most populous state in the BellSouth region.[1] According to U.S. census data, 54.6% of its population is in metropolitan areas. The largest metropolitan area is Greenville-Spartanburg with a population of over 572,000.

South Carolina has four LATAs (Charleston, Columbia, Greenville, and Florence) and had 6,369,318,000 interLATA access minutes in 1996.[2] As of 1996, there were over 1.65 million total access lines in South Carolina served by reporting ILECs, with 1.32 million served by BellSouth.[3] In 1996, BellSouth had in South Carolina $540 million in local service revenues, $274 million in access revenues (about one-fifth intrastate), and $71 million in intraLATA toll revenues.[4]

Of the 83 telecommunication carriers with whom BellSouth has executed agreements as of

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[1] www.census.gov/statab/ranks/pg01.txt as of July 1, 1995.

[2] Federal Communications Commission, Preliminary Statistics of Communications Common Carriers, at Table 2.6 (1996) ("FCC 1996 Preliminary Statistics").

[3] FCC 1996 Preliminary Statistics at Table 2.5. There were a total of 1.9 million access lines being served in South Carolina by all incumbent local exchange carriers as of the end of 1995, according to NECA. BellSouth thus had about 68% of access lines in South Carolina in 1995.

[4] FCC ARMIS Annual Summary Report 43-01, BellSouth South Carolina, 1996 at Table I, rows 1010, 1020 and 1030.

September 30, 1997, only sixteen have been certified by the SCPSC to provide competing local telephone service in South Carolina, and only seven are certified by the SCPSC as CLECs and have approved interconnection agreements for services other than resale or cellular telephony. These are ACSI, AT&T, DeltaCom, Hart Communications, Intermedia Communications, KMC Telecom, and MCI. Most of the rest appear to be cellular providers, resellers, or other local exchange carriers in separate service areas. In its 271 application, BellSouth cites Time Warner as a potential facilities-based entrant in South Carolina. However, Time Warner has not filed for CLEC status in South Carolina[5] and we do not consider it a likely facilities-based entrant in the near term. US LEC and Fiber South are the only other companies that have pending CLEC certifications before the SCPSC[6]; neither appear to have plans to provide facilities-based services in South Carolina in the near future.

As of BellSouth's application, no switches have been installed by CLECs to provide local exchange services, while BellSouth has 122 switches in the state.[7] As of September 11, 1997, only 1785 business lines had been resold for the entire state, and 573 to residences in BellSouth's territory.[8] These statistics demonstrate that actual competitive entry into South Carolina is

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[5] Affidavit of Gary M. Wright ¶ 23 ("Wright Aff."), attached to Brief in Support of Application by BellSouth Corporation, et al. for Provision of In-Region InterLATA Services in South Carolina, CC Docket No. 97-208 (Sep. 30, 1997) ("BellSouth Brief").

[6] Wright Aff. at Attachment WPE-A, at 2.

[7] FCC ARMIS Annual Summary Report 43-05, BellSouth South Carolina, 1996 at Table IV, rows 0200 and 0201.

[8] Wright Aff. ¶ 24.

extremely limited; BellSouth's market share of local exchange in its service area is about 99.8% based on access lines.[9]

To detail the competitive landscape, the Department discusses below each of the seven certified CLECs that might provide facilities-based local services in South Carolina.

American Communications Services, Inc. ("ACSI")

ACSI is a facilities-based provider of competitive local telecommunication services in South Carolina[10] with operational local fiber networks located in Charleston, Columbia, Greenville, and Spartanburg.[11] It is not yet, however, an operational facilities-based local exchange service provider. "ACSI currently provides, or actively is implementing plans to provide, a variety of local telecommunication services, including, dedicated and private line, high-speed data services, IP switching and managed services, local switched voice services, and Internet services."[12] The SCPSC approved ACSI's negotiated interconnection agreement with

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[9] 1996 8-K Quarterly Report for BellSouth Corporation and Wright Aff. ¶ 24.

[10] Affidavit of James C. Falvey, In the Matter of Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distances, Inc., for Provision of In-Region, InterLATA Services in South Carolina, Opposition of ACSI, CC Docket No. 97-208, ¶ 2 (October 20, 1997) ("Falvey Aff."). ACSI's business strategy is to supply customers with advanced telecommunication services through its digital SONET-based fiber optic local networks. Id. As of the date of BellSouth's Section 271 Application, ACSI had completed construction of local fiber networks in 32 markets across the country and had nine local exchange switches in operation. Id. "ACSI plans to install a total of 16 local switches by year end." Id.

[11] Id. ¶ 4.

[12] Id.

BellSouth on October 28, 1996 and certified ACSI as a CLEC in August 1996.[13]

During the first quarter of 1998, ACSI plans to have an operational switch in Greenville.[14] ACSI currently resells BellSouth local exchange services to business customers and plans to migrate resale customers to its own facilities when the local switch is installed.[15]

ACSI has initiated negotiations for collocation arrangements at BellSouth's Greenville end offices and has requested the assignment of NXX codes.[16] ACSI has also stated that it plans to use that switch later to provide local switched services to other South Carolina cities by back-hauling traffic to Greenville as necessary.[17]

While "ACSI's business strategy focuses primarily on business customers," ACSI has said that it "will provide facilities-based service to residential callers through multi-tenant dwelling units ("MDUs") and shared tenant service ("STS") providers where it makes economic sense."[18] ACSI currently provides a high capacity connection to a STS provider in Birmingham, Alabama who, in turn, arranges service with its individual residential tenants.[19] ACSI has not, however, announced plans to provide residential service in South Carolina.

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13 Wright Aff. at Attachment WPE-A, at 2.

14 Falvey Aff. ¶ 5.

15 Id. ¶ 5.

16 Id.

17 Id.

18 Id. ¶ 11.

19 Id.

However, ACSI has stated that it would be interested in offering its switched facilities-based local services on a wider scale to residential customers in South Carolina when an economic ULL (Unbundled Local Loop) pricing structure is established.[20] ACSI asserts that "BellSouth's current pricing policies for ULLs and other UNEs have created a cost-price squeeze that currently makes it economically infeasible to serve individual residential customers directly in South Carolina."[21] When permanent rates have been established by the SCPSC, ACSI stated that it "will reassess the economic feasibility of providing widespread local service to individual residential customers in South Carolina."[22]

AT&T

AT&T's entry strategy for South Carolina appears to be based on a combination of unbundled elements and resale. On February 29, 1996, AT&T requested the SCPSC to amend its certificate of public convenience and necessity to permit AT&T to offer local exchange services in South Carolina.[23] In March 1996, AT&T informed BellSouth that it intended to use UNEs to provide "all the network capabilities and functions needed to offer residential and business

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[20] Id.

[21] Id. ¶ 13.

[22] Id. ¶ 19.

[23] Affidavit of Jim Carroll on Behalf of AT&T Corp. ¶ 12 ("Carroll Aff."), attached to AT&T Comments as Appendix-Volume V, Tab D.

customers a wide array of basic exchange services."[24] On June 10, 1996, AT&T formally requested access and interconnection from BellSouth in South Carolina.[25]

BellSouth and AT&T failed to reach an interconnection agreement on all terms and AT&T requested arbitration on the disputed issues. The arbitration proceeding took place in February 1997 and on March 10, 1997, the SCPSC ruled on the outstanding issues.[26] While the final arbitrated agreement between AT&T and BellSouth was signed on June 2 and approved by the SCPSC on June 20, AT&T still had objections to several provisions and filed an appeal with the U.S. District Court of South Carolina on July 18, 1997.[27]

AT&T is providing some local services over its own facilities to medium and large business customers in South Carolina.[28] AT&T is using its existing toll switches to route local traffic between those switches and BellSouth tandem or end offices. This service is currently provided only for intraLATA calls in South Carolina, but AT&T has indicated that it plans to file a tariff under which this service could be available to those customers as a local offering.[29] It is not clear when AT&T would begin offering local residential services in South Carolina.

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24 Id.¶ 14.

25 Id. ¶ 15.

26 Id. ¶ 18.

27 Id.

28 Id. ¶ 19.

29 Id.

ITC DeltaCom

Delta Com is a subsidiary of ITC Holding Co. and is a regional long-distance company in the southeast that has traditionally focused on the business market.[30] The ITC DeltaCom network has over 2100 miles of fiber-optic cable throughout both North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and parts of Texas.[31] DeltaCom has also constructed a series of SONET-rings along its fiber routes in order to provide self-healing high capacity access and transport services.[32] DeltaCom is authorized to provide local telecommunication services in South Carolina.[33] DeltaCom negotiated an interconnection agreement with BellSouth for South Carolina on March 12, 1997, that was approved by the SCPSC on April 3, 1997.[34]

During the second quarter of 1997, DeltaCom publicly announced its intention to offer local exchange service throughout its service area, including South Carolina.[35] In August 1997, the SCPSC approved DeltaCom's tariff for both business and residential local exchange service

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30 Wright Affidavit ¶ 15.

31 Id.

32 Id.

33 Wright Aff. at Attachment WPE-A, at 2. The SCPSC certified DeltaCom in January 1997. Id.

34 Affidavit of Steven D. Moses on Behalf of ITC DeltaCom, Inc. ¶ 21 ("Moses Aff."), attached to Comments of the Association for Local Telecommunications Services, CC Docket No. 97-208 (Oct. 20, 1997) as Attachment C.

35 Id.

offerings.[36] Based upon DeltaCom's Confidential Exhibit provided as part of the Moses Affidavit, DeltaCom's business plans for South Carolina and the steps taken in pursuit of those plans indicate that it intends to provide residential facilities-based services in South Carolina, either through the use of a network entirely owned by DeltaCom or through the partial use of BellSouth facilities.[37] A recent filing by DeltaCom before the SEC states, however, that DeltaCom's business strategy is to provide local exchange services to businesses, though it does not deny that DeltaCom will provide residential, facilities-based local exchange services.[38] Therefore, while DeltaCom does plan "to provide facilities-based residential and business services on a widespread basis in South Carolina in the foreseeable future,"[39] thus there are still real questions as to when DeltaCom intends to provide residential service in South Carolina.

Hart Communications/Paramount

Hart's interconnection agreement with BellSouth specifically stated that it intended to provide telecommunication services in South Carolina and interconnect its facilities, purchase

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36 Wright Aff. ¶ 21.

37 Moses Aff. ¶ 22.

38 Amendent No. 3 to Form S-1 Registration Statement Under the Securities Act of 1933, ITC^DeltaCom, at 3 (Oct. 22, 1997).

39 Moses Aff. ¶ 22.